

**LISTING OF THE CLAIMS**

1. (Previously Presented) A method of producing a microstructured optical fiber from a monolithic preform formed from optically suitable polymeric material, said method including the steps of:

creating a plurality of zones of relatively high refractive index at predetermined locations in said monolithic preform, said zones substantially surrounded by material of relatively low refractive index to create an array of light guiding cores, and subsequently drawing said monolithic preform to create a length of said microstructured optical fiber.

2. (Original) The method as claimed in claim 1 wherein said light guiding cores are surrounded substantially by air.

3. (Previously Presented) The method as claimed in claim 1 wherein said light guiding cores have a generally non-circular cross-sectional shape.

4. (Cancelled)

5. (Previously Presented) The method as claimed in claim 1 wherein a plurality of holes is drilled into said monolithic preform at said predetermined locations to create said zones of relatively high refractive index.

6. (Previously Presented) The method as claimed in claim 1 wherein said monolithic preform is drawn to form said microstructured optical fiber in a two-stage drawing process.

7. (Previously Presented) A method of producing a microstructured optical fiber from a monolithic preform, said method including the steps of:  
creating channels of relatively low refractive index at predetermined locations in said monolithic preform, said channels acting to define light guiding cores, and  
subsequently drawing said monolithic preform to create a length of said microstructured optical fiber.

8. (Previously Presented) The method as claimed in claim 7 wherein a plurality of holes is drilled into said monolithic preform at said predetermined locations to create said channels.

9. (Previously Presented) The method as claimed in claim 7 wherein said monolithic preform is drawn to form said microstructured optical fiber in a two-stage drawing process.

10. (Cancelled)

11. (Previously Presented) A microstructured optical fiber produced from a monolithic preform formed from optically suitable polymeric material, said optical fiber including a plurality of air channels, said air channels acting to define light guiding cores between said air channels.

12. (Previously Presented) A microstructured optical fiber for imaging applications produced from a monolithic preform formed from optically suitable polymeric material, said optical fiber including air channels which act as light guiding cores.